

TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

1SV280

VCO for UHF Band Radio

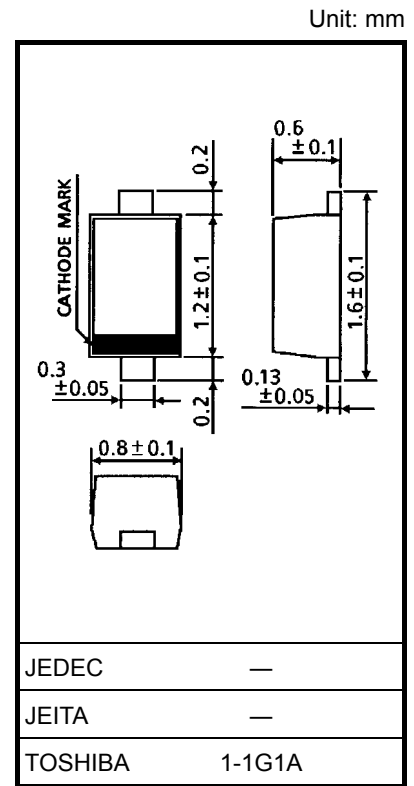
- High capacitance ratio: $C_{2V}/C_{10V} = 2.4$ (typ.)
- Low series resistance: $r_s = 0.44 \Omega$ (typ.)
- Useful for small size tuner.

Absolute Maximum Ratings (Ta = 25°C)

| Characteristics | Symbol | Rating | Unit |
|---------------------------|-----------|---------|------|
| Reverse voltage | V_R | 15 | V |
| Junction temperature | T_j | 125 | °C |
| Storage temperature range | T_{stg} | -55~125 | °C |

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

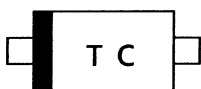


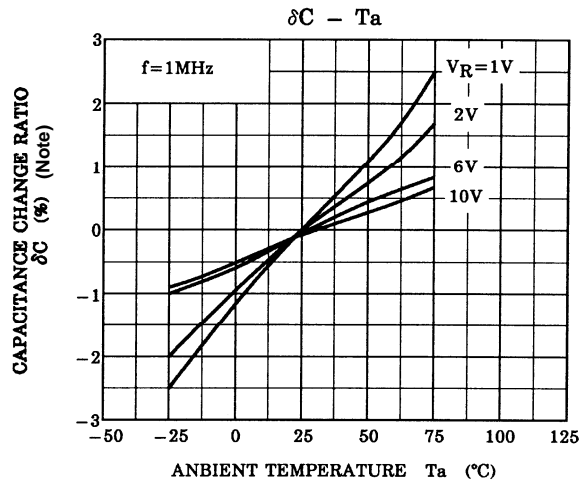
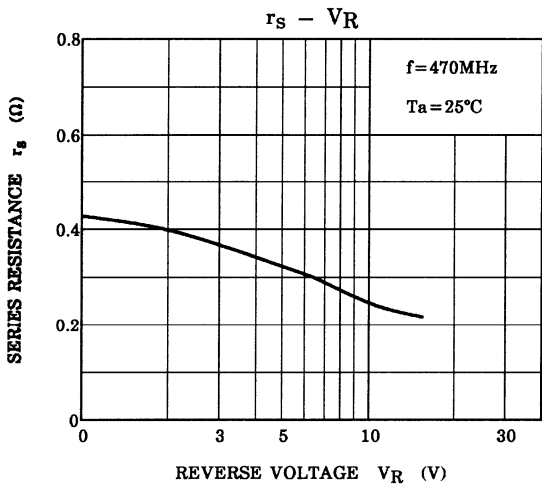
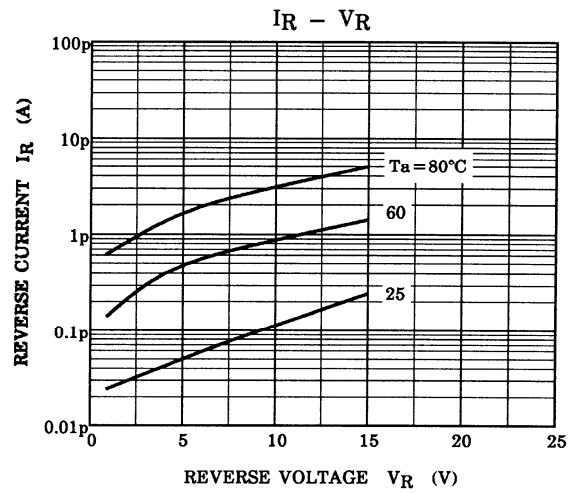
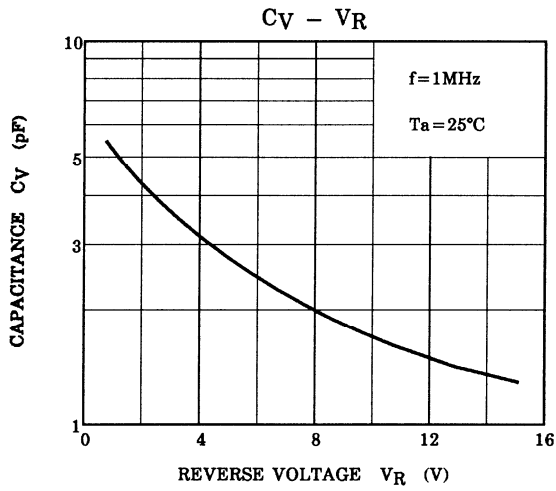
Weight: 0.0014 g (typ.)

Electrical Characteristics (Ta = 25°C)

| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|-------------------|------------------|--------------------------|-----|------|-----|----------|
| Reverse voltage | V_R | $I_R = 1 \mu A$ | 15 | — | — | V |
| Reverse current | I_R | $V_R = 15 V$ | — | — | 3 | nA |
| Capacitance | C_{2V} | $V_R = 2 V, f = 1 MHz$ | 3.8 | — | 4.7 | pF |
| Capacitance | C_{10V} | $V_R = 10 V, f = 1 MHz$ | 1.5 | — | 2.0 | pF |
| Capacitance ratio | C_{2V}/C_{10V} | — | 2.0 | 2.4 | — | — |
| Series resistance | r_s | $V_R = 1 V, f = 470 MHz$ | — | 0.44 | 0.6 | Ω |

Marking





Note: $\delta_C = \frac{C(T_a) - C(25)}{C(25)} \times 100$ (%)

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